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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,938	11/20/2003	Thomas A. Trabold	8540G-000180	9011
27572 7590 02/26/2007 HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER MAPLES, JOHN S	
			ART UNIT	PAPER NUMBER
			1745	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/717,938

Applicant(s)

TRABOLD, THOMAS A.

Examiner

John S. Maples

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-17 and 29 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-17 and 29 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. Claims 4 and 10 are objected to because in claim 4, the word --from-- is missing after "selected" and a space is needed in line 1 of claim 10 after "claim".

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanemoto et al.-US 6,395,416 (Tanemoto) in view of Kaufman-US 5,445,904.
(Kaufman) (New Rejection)

Reference is made to Figures 1-2, 4 and 5 in Tanemoto along with the Abstract and column 1, line 10 through column 2, line 51; column 7, line 57 through column 8, line 4 and Table 2. These portions of Tanemoto disclose a fuel cell including an electrically conductive member-a separator 101 that is formed of an epoxy resin having graphite particles therein. Reference is made to Figures 1-2, 4 and 5 for the lands formed on the center portion 102 of the separator 101.

The only claimed feature not taught by Tanemoto is the electrically conductive plate comprising a metal plate. Kaufman teaches in Figures 1 and 3 along with column 4, lines 1-16 and column 6, lines 35-55 a metal plate as part of an electrically conductive member, which member comprises carbon as a conductive material. To have utilized the metal plate of Kaufman in the fuel cell of Tanemoto would have been

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obvious so that the electricity produced could be more easily and quickly transferred from the electrically conductive member.

Applicant's arguments have all been considered but are not deemed persuasive. Applicant argues that Tanemoto does not teach a metal plate. This argument is deemed moot in view of the above new grounds of rejection.

4. Claims 7-9 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanemoto and Kaufman, together taken in view of Swathirajan et al.-US 5,272,017. (Swathirajan) (New Rejection)

The only claimed feature not shown by Tanemoto and Kaufman is the carbon cloth gas diffusion medium. The patent to Swathirajan shows a carbon cloth gas diffusion medium 30, 32 in a fuel cell system as seen in Figure 1 therein and in column 3, line 53 through column 4, line 8. To have included the carbon cloth medium of Swathirajan in the fuel cell of Tanemoto would have been obvious to one of ordinary skill in this art to enable current from the fuel cell to be collected in a more efficient manner.

Applicant's arguments have been considered but are not persuasive. Applicant attacks this rejection based on Tanemoto not teaching a metal plate. As set forth in section 3 of this action, the combination of Tanemoto and Kaufman teach a metal plate in an electrically conductive member.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanemoto and Kaufman, taken together in view of Yamada et al.-US 6,500,893. (Yamada) (New Rejection)

Tanemoto and Kaufman teach all of the claimed subject matter of claim 10 except for the equal amounts of the resin and the graphite. Yamada teaches a fuel cell separator that is manufactured by extrusion (column 8) and which separator may comprise equal amounts of resin and graphite-see the Abstract and column 8, lines 10-39. To have included in Tanemoto and Kaufman the ingredients of the separator of Yamada would have resulted in a cost savings manufacturing step.

In response to applicant's argument that neither Tanemoto or Yamada teach a metal plate, section 3 of this action sets forth the combination of Tanemoto and Kaufman teaching such plate.

6. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanemoto and Kaufman, together taken in view of Swathirajan and McManus et al.-US 2003/0198857. (McManus) (New Rejection)

The combination of Tanemoto, Kaufman and Swathirajan teach all of the claimed subject matter except for the lands of the separator being of varying heights. McManus show in Figures 5, 6, 8, 9 and in paragraphs 0034-0042 a separator in a fuel cell composed of lands of varying heights. To include in the fuel cell of Tanemoto the separator of McManus would have been obvious because the same would aid in the sealing of the fuel cell assembly when compressed in a final assembly step.

In response to applicant's argument that neither Tanemoto, Swathirajan or McManus teach a metal plate, reference is made to section 3 of this action for the reasons and evidence for Tanemoto and Kaufman setting forth this element.

7. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanemoto and Kaufman, together taken in view of Fuss et al.-US 2005/0095494. (Fuss) (New Rejection)

The only claimed feature not shown by Tanemoto and Kaufman is the one electrode including a plurality of alternating catalytic and non-catalytic regions where the non-catalytic regions are aligned with lands of the flow field. Fuss discloses in Figure 9 and in paras. 39-43, an electrode that has striped catalytic/non-catalytic regions where the non-catalytic regions are aligned with lands of a conductive member. To have incorporated the configuration of the electrode of Fuss in Tanemoto/Kaufman would have been obvious to one of ordinary skill in this art so that there would be greater reaction at non-land sites on the electrode and so that the amount of catalyst material could be reduced and cost savings realized on the manufacture of a fuel cell.

Applicant again has attacked the above rejection based on the fact of the applied references not teaching a metal plate, however, section 3 of this action sets forth a rejection rendering this feature obvious in view of the applied prior art.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday, 6:15-3:45, and every other Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSM/2-15-2007


JOHN S. MAPLES
PRIMARY EXAMINER